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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,509

06/16/2006

Egisto Boschetti

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EXAMINER

HAQ, SHAFIQU

ART UNIT

PAPER NUMBER

1641

NOTIFICATION DATE

DELIVERY MODE

05/03/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCpatent@leydig.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/583,509	<b>Applicant(s)</b> BOSCHETTI ET AL.	
	<b>Examiner</b> SHAFIQL HAQ	<b>Art Unit</b> 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 3/15/2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,35,49,52-63,99-100 and 102-105 is/are pending in the application.
- 4a) Of the above claim(s) 7,32-35,49,55,56,58-63 and 104 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,30-31,53-54,57 and 99-104 is/are rejected.
- 7) ☒ Claim(s) 52 and 105 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1, 7, 30-35, 49, 52-63, 99-100 and 102-105 are pending and claims 7, 32-35, 49, 55-56, 58-63 and 104 are withdrawn from further consideration pursuant to 37 CFR 1.142 (b) as being drawn to non-elected inventions (see the Office action of 1/24/2011).
2. Claims 1, 30-31, 52-54, 57, 99, 100, 102, 103 and 105 are examined on merits in this office action.

### ***Objections***

3. Claims 1, 30, 31, 52, 57, 99, 100 and 102 are objected as being containing non-elected subjected matter.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 30, 31, 53, 54, 57, 99, 100, 102 and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bettiol *et al* (US 6,413,920 B1).

With regard to claims 1, 30, 53, 54 and 99, Bettiol *et al* teach carrier materials linked to amine compounds (col. 3, line 45-47) and the carrier can be inorganic or organic carrier as for example, polysaccharide cellulose or silane (col.4, lines 58-62 and col. 4, lines 45 and 47). Note that cellulose and silane reads on the solid support of instant claim 1 because specification

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defines solid support as organic material selected from cellulose, silica and alumina (paragraphs [0026] and [0027]). Bettiol teach that amine group can be linked to the carrier through a linker (col. 4, lines 57-61). Bettiol *et al* teach a formula  $\text{NH}_2-\text{L}_m-\text{B}-\text{L}_n-\text{R}^*$  (col. 4, line 50) and disclose that the  $-\text{NH}_2$  group linked to carrier B through a  $-\text{CH}_2-\text{CH}_2-\text{O}-$  linker (col. 5, lines 30-42). Bettiol *et al* further teach that  $\text{R}^*$  substituent contains 1-22 carbon atoms and can be linked to B through a linker  $-\text{O}-$  and  $\text{R}^*$  can carry a functional end group E selected from  $\text{NH}_2$  (col. 6, lines 33-40). The disclosed compounds is similar to the compound of formula 1 when  $a=3$ ,  $\text{R}_1$ ,  $\text{R}_2=\text{H}$ ,  $b=0$ ,  $a'=0$ ,  $c=0$ ,  $d=1$  wherein  $(\text{R}_3)\text{X}$  is absent and  $\text{R}_4=\text{H}$ ,  $a''=0$ ,  $b'=0$ ,  $a'''=0$ ,  $d'=0$ ,  $\text{R}_6=\text{H}$  and the wavy line represents a solid support.

The difference between the compound of instant claim as defined above and the compounds of the reference herein lie in the selection of repeating group  $\text{CH}_2$  that links the amine group to the solid support. In the case of compound of formula 1 of claim 1, it is 3 but in the case of the reference, linker with two  $\text{CH}_2$  groups has been disclosed and the reference further teaches  $\text{R}^*$  can be 1-22 carbon atoms and therefore, the compounds are homologs. However, homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by  $-\text{CH}_2-$  groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. In re Wilder, 563 F.2d 457, 195 USPQ 426 (CCPA 1977) ((MPEP § 2144.08).

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The claimed compounds are so closely related structurally to the homologous compounds of the reference as to be structurally obvious therefore in the absence of any unobviousness or unexpected properties. Applicants should note that a generic teaching is grounds for 35 USC § 103 (a) obviousness type of rejection. In looking at the instant claimed compounds as a whole, the claimed compounds would have been suggested to one skilled in the art unless unobvious or unexpected results can be shown.

With regard to the recitation "chromatographic material" in the preamble, the recitation is for intended use purpose and Applicant is reminded that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

With regard to claims 31, 100, 102 and 103, the difference lie in the substitution group on the amine group (-NH<sub>2</sub>) i.e. hydrogen versus methyl or lower alkyl. ) on the amine group and it is well established that the substitution of methyl (or lower alkyl) for hydrogen on a known compound is not a patentable modification absent unexpected or unobvious results. *In re Wood*,

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199 U.S.P.Q. 137 (C.C.P.A. 1978) and *In re Lohr*, 137 U.S.P.Q. 548, 549 (C.C.P.A. 1963).

With regard to claim 57, Bettiol et al teach amine compounds in the form of dendrimers carrying amine groups at the periphery of the spherical dendrimer molecule (col.18, lines 59-62) and amine group with the linker as described above would be obvious to one of ordinary skill in the art. With regard to “particle”, the term has not been clearly defined in the specification and the spherical dendrimers of Bettiol *et al* could be considered as a particle for being having a spherical shape.

#### ***Allowable Subject Matter***

6. Claim 52 is objected to as being containing non-elected subject matter but would be allowable if the chromatographic material of the formula is limited to



the compounds (see the elected species filed 12/2/2010). Claim 105 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Applicant's argument***

7. Applicant's arguments and amendments filed 3/15/2011 have been fully considered and are persuasive to overcome the rejections of 1/24/2011. However, applicant amendments necessitated applying new grounds of rejection under 35 U.S.C. 103 as described in this office action.

### ***Conclusion***

8. Applicants' amendment necessitated new ground(s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

If Applicants should amend the claims, a complete and responsive reply will clearly identify where support can be found in the disclosure for each amendment. Applicant should point to the page and line numbers of the application corresponding to each amendment, and provide any statements that might help to identify support for the claimed invention (e.g., if the amendment is not supported in *ipsis verbis*, clarification on the record may be helpful). Should Applicants present new claims, Applicants should clearly identify where support can be found in the disclosure.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shafiqul Haq whose telephone number is 571-272-6103. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Shibuya can be reached on 571-272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Shafiqul Haq/  
Primary Examiner, Art Unit 1641